## (19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 3 February 2005 (03.02.2005)

**PCT** 

## (10) International Publication Number WO 2005/011161 A1

- (51) International Patent Classification7:
- H04B 10/18
- (21) International Application Number:

PCT/IT2003/000455

(22) International Filing Date:

24 July 2003 (24.07.2003)

(25) Filing Language:

Italian

(26) Publication Language:

English

- (71) Applicant (for all designated States except US): PIRELLI & C. S.p.A. [IT/IT]; Via Gaetano Negri, 10, I-20123 Milano (IT).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): MINZIONI, Paolo [IT/IT]; Viale Golgi, 2, I-27100 Pavia (IT). SCHIFFINI, Alessandro [IT/IT]; Pirelli S.p.A., Viale Sarca, 222, I-20126 Milano (IT). PAOLETTI, Arianna [IT/IT]; Pirelli S.p.A., Viale Sarca, 222, I-20126 Milano (IT).
- (74) Common Representative: PIRELLI & C. S.p.A.; Via Gaetano Negri, 10, I-20123 Milano (IT).

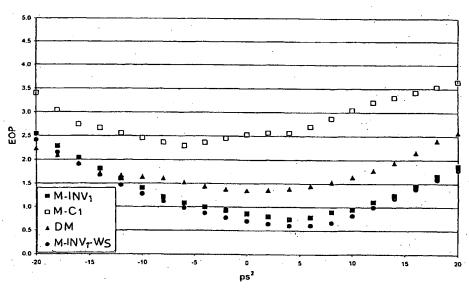
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

## (54) Title: OPTICAL COMMUNICATION LINE WITH DISPERSION INTRACHANNEL NONLINEARITIES MANAGEMENT



(57) Abstract: Optical communication line (2) of a communication system (100) comprising a first processing station (1) and an amplifying station (A1). The line comprises a first optical connection (S1) having at least partially compensated accumulated dispersion and placed between the first processing station and the amplifying station. A second optical connection having at least partially compensated accumulated dispersion is connected to the output of the amplifying station. Portions of optical fiber ( $F_{1-1}$ ,  $F_{2-2}$ ) leaving the processing station and the amplifying station are associated to respective first order chromatic dispersions which are of opposite signs and have absolute values lower than or equal to 13 ps<sup>2</sup>/Km.

